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COMMERCIAL AVIATION IN GERMANY

PAST AND FUTURE.

By

W. Wronsky.

Translated by Paris Office, N. A. C. A.

February, 1921.

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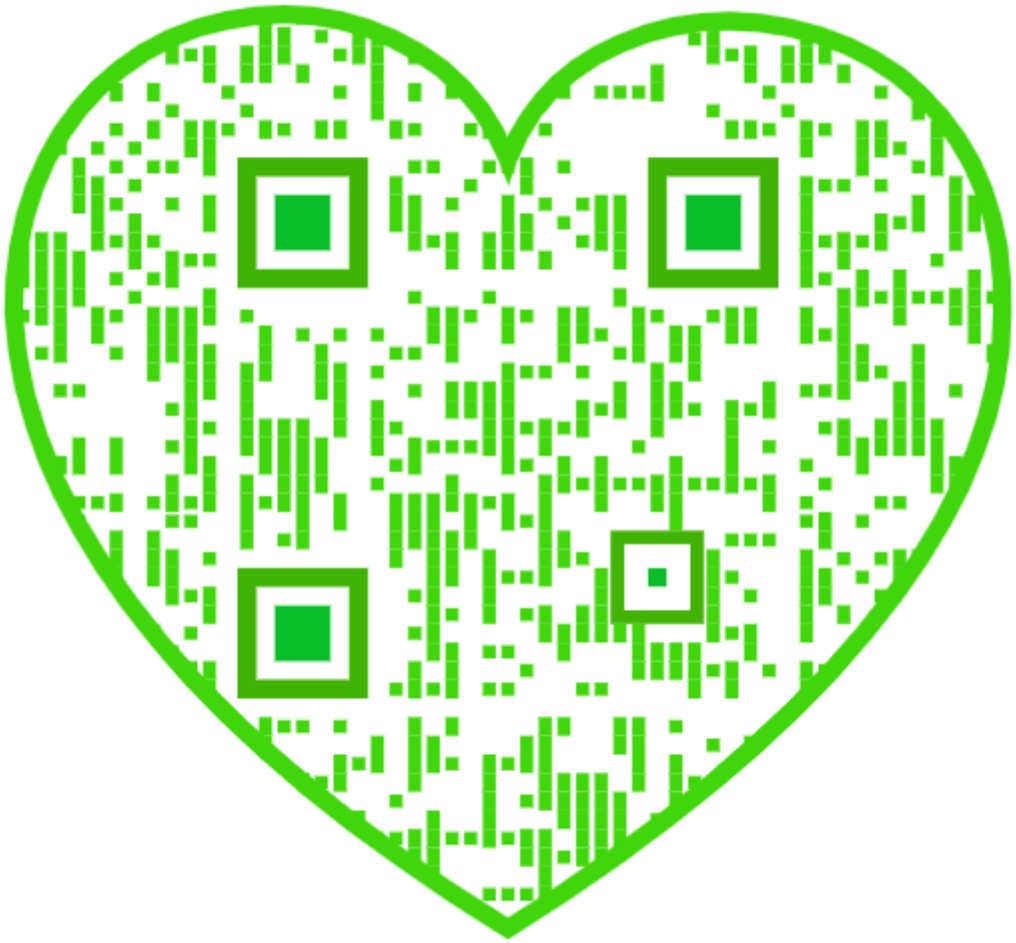

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COMMERCIAL AVIATION IN GERMANY

PAST AND FUTURE.*

By W. Wronsky.

Translated by Paris Office, N. A. C. A.

"A million kilometers covered in flight! Is it really much or little?" I have frequently been asked by the uninitiated; and even when I explained that a railway train would need to rush 89 times to Gibraltar, Berlin, Constantinople and back in order to travel a million kilometers, I could see that my statement made but little impression. As a matter of fact, a concrete idea of the meaning of a flight of a million kilometers can be gained only be retracing the path developed.

The D.L.R. (German Aerial Navigation Board) was established in 1917 in order to study the question of civil aerial transport in all its phases. At that time, when the world-war was at the height of its fury and tumult, and tens of thousands of airplanes were plunged in the thick of the fight on all the Fronts, the investigation of aerial transport - which will form a link between different nations- was certainly a far-seeing project.

The unfortunate termination of the war altered the even tenor of the work. No time could be lost if anything were to be rescued from the general smash for civil aviation; rapid action and continuous energy were called for if civil aviation were destined to be a factor - even though a small one - in the scheme of economical reconstruction.

Until the end of January, 1919, the D.L.R. possessed an extensive aerodrome with mail and giant airplanes, and an adequate number of pilots and observers. Then it was that the Government issued the decree which soon enabled the "grey theory" to be replaced by the "Green Tree of Life".

The much-desired opportunity was presented by the opening of the National Congress. Preliminary negotiations with the Government postal authorities easily led to a favorable understanding, and a regular aerial postal service was established between Weimar and Berlin on February 5th.

*(From "Der Luftweg", Nos. 50-51, pp. 6-9).

The results obtained were so encouraging from an aero-technical viewpoint, and the new means of transit met with such high approval on the part of the public, the postal authorities and the Press that a second aerial postal line was opened to Hamburg in March, 1919. In April, these lines were extended by further services between Berlin, Hanover, the Rhine Provinces, Berlin and Warnemünde. The Aerial Naval Station of the D.P.L. at Warnemünde also resumed work, for the time being only in special flights. The following summer, mail services (summer resort services) were established to Swinemünde and Westerland, and the entire mail was delivered by airplane in various regions when railway traffic was suspended. Besides these numerous special flights, special mention should be made of an aerial service to Ukraine, organized on behalf of the Government.

It was quite evident to the D.L.R., from the outset, that all these undertakings were to be looked upon as mere tests, carried out first and foremost with a view to convincing the public - hitherto extremely sceptical about such undertakings - that in this case it was "getting on". And it did get on. The figure of safety attained during the whole service was 95% to 98%, which exceeded the most optimistic expectations.

The success of these flights led to the necessity for bringing the idea of flight to popular acceptance. The following instance will prove that this has also been achieved to some extent:-

Our airplanes were utilized at Stolp, this summer, as a means of transporting East Prussian voters over Polish territory. Some hundreds of people of the poorer working class crowded about our machines, and old men with white beards, grandmothers turned 70 and nursing mothers got into them with perfect confidence and self-assurance.

It has been one of the dreams of mankind, for thousands of years, to fly through the air, and the vision has now been realized.

Such aerial transport as this cannot, however, be considered as foreshowing the final aims to be attained. The airplane has a higher destiny than that of competing with express trains over short distances. It is now an everyday occurrence to meet a flying film-star, a merchant or banker going to a conference, a government official on his way to a meeting or a physician hastening to a sickbed, and an aerial transport association must eventually reach a higher standard than this ordinary routine.

Aerial communication should be the means of uniting nations from a political as well as from an economical point of view, and for no country in the world is such a link more essential, at the present time, than for us.

Thousands of Germans are now living in occupied territory, exposed to outside influences and incurring the danger of getting out of close touch with the mother country. This should be prevented by all possible means, and no method should be left untried. It is anything but a matter of indifference to us if the German living in occupied territory or in other countries received his German newspaper half a day sooner or later, and with it his ideas with regard to his native land; or he may even be able to obtain a foreign newspaper earlier than a German one. Here again, the air-post service must and should intervene. Besides this, German commercial news and money market reports will be enabled to reach foreign countries in advance of information from other lands or will at least arrive as soon as any other news. German business letters will be delivered abroad as speedily as telegrams in bygone days; samples, goods, parcels etc. which would take days by ordinary transit will be received within a few hours. And all this opens up a fine prospect for the collaboration of the airplane in reconstructing the economical life of our country, which has always been one of our noblest aims.

The field of action of the airplane consists in opening up communication with distant lands and in making oversea flights and flights across districts where railway facilities are poor or non-existent. Our maxim must be that of our beloved Hapag: "The World is my Field".

But there were many preliminaries to be gone through; not until dozens of typewriters had filled sheet upon sheet with written matter did we finally reach the goal, when a general agreement enabled us to make our first special flight over the frontiers of Germany and we thereby climbed another step on the ladder.

When the North-West European flight was undertaken this year, - the line that links up five countries and along which our airplanes fly side by side with those of other countries, over Sweden, Denmark and Germany to Holland - few people who read the simple red posters had any idea of the work that had paved the way for the new enterprise. It has been crowned with success, however, and the first step has been taken along the high road.

The night passenger can now settle into his sleeping-car at Stockholm with his flight pass for London in his pocket, and when he awakes at Malmö in the morning and rubs his

sleepy eyes, he sees his airplane in readiness on the quay; the afternoon of the same day may see him wandering through the old-world streets of Amsterdam. The Londoner posting a letter to a business friend at Copenhagen knows that it will be handed to the recipient on the following day; and our airplanes have several times carried more than one-tenth of the entire Scandinavian mail over to Germany.

A step has thus been taken forward, but though it is only a step, no prophet is needed to foretell that aerial transport is bound to develope with a rush, and in ever-increasing proportions, during the next few years.

All over the world, comfortable, up-to-date transport airplanes are ousting inconvenient and wasteful war machines, and one of the newest airplane types has already covered 300 km. in one hour. There can be no great difficulty in combining and adapting them both, nor will much time be taken up in the work.

A veritable Wonderland will then lie before us. We shall be able to take breakfast at 7 a.m. in Berlin, to get into a comfortable airplane cabin at Johannisthal at 8 a.m. and sit there in a luxurious club chair, smoking a cigar and reading the morning paper while we glance from time to time at the world below us as we fleet by at the rate of 300 km. p.h. We shall pass over Munich, the Alps, the blue lake of Garda, the smiling fields of Italy and the blue waters of the Mediterranean, all appearing like so many maps drawn beneath us; and the clock will barely have struck two before we shall be sitting at lunch at Tunis, under the burning sun of Africa.

All this probably sounds like one of Jules Verne's romances, yet we may say with Faust that "so much has already been done that little remains for us to do".

There are nevertheless many reasons that will prevent our Dreamland Flight from being realized too soon or too completely. Fresh political obstacles are constantly arising out of the Peace Treaty and its execution, and they will all require to be overcome.

The ban on construction has but recently been prolonged, the export and import of airplanes forbidden, and the utilization of the airplanes left to us by the Allies for flights abroad has also been prohibited. So it is that new difficulties confront us day by day; but we have ample proof that the development of aerial transport cannot be permanently handicapped by such voluntary impediments, and we learn from reliable sources among our late enemies that they make no headway in their efforts to impede the progress of German aerial transport.

Aerial transport is nothing more or less than a UNIVERSAL MEDIUM OF COMMUNICATION BY AIR, which can only be based, in all parts of the world, on solidarity, mutual confidence and mutual aid. The first step has already been taken in the right direction. About a year and a half ago, the D.L.R. formed an aerial transport association with the leading aerial companies of Sweden, Norway, Denmark, Holland and England, since that time known as the "International Air Traffic Association"(Iata). The first result of this association was the North-West European flight previously mentioned, and other plans will be followed up in common. A glance at the map of the World will show great stretches of country as yet uncrossed by any sort of line of communication or transport, such as, for instance, the enormous tracts of land in the East and South-East, almost like North and South America.

All these lands are rich in treasure that has never been exploited, chiefly owing to such lack of transport; and it is in regions like these that the airplane will act as a pioneer and avoid the foundation of undesirable competition between the different countries.

The airplane will also assert its rights as a means of communication in the most frequented parts of Europe. The utilization of the speed of the airplane, and the substitution of transport planes of improved construction for existing types are all that is needed to bring the whole of Europe within the scope of a day's journey from Germany.

It must not, however, be supposed that the only difficulties to be overcome with regard to air traffic are of a political nature; there are technical and economical conditions, far from being satisfactory at the present time, which need to be coped with. The next thing to be undertaken will be the REPLACEMENT of airplanes developed during the war, by MODERN TRANSPORT AIRPLANES, which will give better results in respect of speed and economy and will also render the highest possible degree of safety in working. And here again, difficulties arise and must be overcome. The number of transport airplanes utilized in a year, in Germany, will probably amount only to about one-tenth or one-twentieth of the former monthly figure of some 2000 machines at the outset. For this very reason, the construction of transport airplanes should be undertaken by none but the most efficient of firms.

It does not seem to be of advantage to fix on any particular type. Aerial transport is so many-sided that it calls for as much latitude as possible as regards type, though this does not exclude the possibility of close cooperation between the different parties concerned in making such machines, with a view to attaining greater economical success. Safety in working depends upon the ENGINES, and there is no doubt but that

our technicians will make considerable headway in that branch. The COMFORT of the passengers must also be considered, as it is important that their capacity for work should not be diminished after an aerial journey of several hours, through fatigue.

It has already been stated that the SPEED of airplanes has been raised to more than 300 km/h in test flights. With modern machines, we shall therefore soon be able to count on an average speed of 200 to 250 km/h., though we now have, on the other hand, speeds of about 130 km/h. We shall, eventually have differentiated speeds for flight and for landing, and the tests already planned on this line give every promise of satisfactory results.

Flight by night and in fogs will also be facilitated in the near future, and this point is essential to enable us to compete with night trains. A systematic ground organization will here be necessary, to light up the routes with flares; shipping line methods might serve as a model in this case. More difficulty is to be expected from the economical than from the technical side of the question.

It is a well-known fact that all aerial traffic companies have as yet been working at a heavy loss. In certain countries as, for instance, France and Germany, these losses were somewhat diminished by Government subsidies. In other countries, an effort was made to obtain assistance through prizes in money. The subvention system is unsatisfactory, and it can only be regarded as a transition stage. A reduction of expenditure must be achieved by the use of more economical machines, and by an organization extending to the smallest details. And at the same time, the receipts must be increased by judicious propagation of the idea of traveling by air.

The economical question is a particularly difficult one owing to the fact of its being SCARCELY POSSIBLE to make any EXACT CALCULATION BEFOREHAND; there are certain items in the account of expenditures that cannot be definitely fixed. Such are, for instance, the length of existence of the airplane, the rates of insurance, the consumption and cost of fuel,- all of which are subject to variation.

The question of economical usage depends chiefly on the choice of suitable MACHINES. A survey of existing technical conditions opens up the prospect of the possibility of improvement in this respect, as may be seen by the following data.

FIVE HOURS' FLIGHT.

Present Day Mail Airplane, 200 H.P.

1918-1920. 250 liters of fuel were needed for every 100 kg. useful load, and a distance of 650 km was covered at a cost of 1500 M. (130 km/h). A freight of 150 kg could be transported.

Modern Transport Airplane, 185 H.P.

1921 - 56 liters of fuel are needed per 100 kg useful load, and a distance of 800 km is covered for 336 Marks. (160 km/h). A freight of 400 kg. can be transported.

Giant Airplane with 4 engines of 185 H.P.

1922. 50 liters needed per 100 kg useful load; a distance of 1100 km will be covered for 300 Marks, 1800 kg. freight can be transported

The above table shows that the airplanes formerly used in our transport service consumed five times as much fuel as an up-to-date airplane, constructed for transport.

It is also most important for economical working results to be obtained by the favorable and accurate disposition of the crew, upon which the possibility of attaining the highest possible efficiency is dependent, both for the airplane and the crew.

The question of INCREASED RECEIPTS is probably the most difficult to be met - Such receipts are the joint outcome of the transport of MAILS, PARCELS, GOODS AND PASSENGERS.

The postal service has now been regulated by an agreement with the POSTAL AUTHORITIES, whereby the transport of a certain quantity of mail is obligated in return for the payment of a tax per kilometer. In the case of goods and passengers, the comparatively high tariffs charged on account of the high cost of living have done a good deal towards frightening people. The day is bound to come when we shall manage to have greater traffic at somewhat lower fares.

The greatest attraction of all will always lie in the working safety, the punctuality and the comfort of aerial journeys.

The list of accidents is a very low one: three cases of slight injuries, one of severe injury.

The European-North-West Flight gives a distinct picture of the present lack of favorable economical conditions.

In the course of 304 flights, a distance of 82,000 km was traversed, and only 8,115 kg. carried, whereas 45,500 kg. might have been transported; or if we express it in figures of energy, 7.4 H.P. was expended on every kilogram transported. Had the freight room been utilized to the full, the figures would have been only 1.3 H.P. per kilogram. In the modern transport airplane, the figure of energy expended would have been only 0.3 H.P.

All this clearly shows that though all that has been done in the domain of civil aerial transport is certainly to be considered as a good step forwards, many problems remain to be solved. And this task can only be achieved by a close collaboration on the part of all those interested in the matter.

It may be suggested that CONFERENCES should be held regularly, once or twice a year; they might be summoned by the Air Board, and their object would be that of having all questions connected with aerial traffic discussed by aeronautical experts.

From all that has been written above, the following main points may be summarized:

1. Aerial transport cannot possibly be carried out in Germany alone; its activities must be extended beyond the frontiers, and particularly in districts where there is a lack of communication by transport.

2. Specially constructed machines are necessary for aerial transport; safety in working is the first requirement for such airplanes, speed and economy are the next essentials.

3. The great outlay consequent on aerial transport can only be met by means of efficient undertakings founded on a strong financial basis. Unnecessary disunion should be avoided.

4. During the next few years, aerial transport will need the support of State subsidies, but it will gradually be enabled to stand on its own feet by progress in the technics of aeronautics and through the enlistment of the sympathy of the economical classes.

The objection might possibly be raised, that "all these prospects of development are extremely good in their way, but we are not in a position, here in Germany, to devote labor and capital to a new task of this kind. There are so many more urgent things to be done that we surely ought to leave to richer countries the task of solving the problem of aerial transport".

There can be but one reply to such an attitude: "If we were to adopt and follow up that view, we should see, sooner or later, that we had made a grave mistake, and that we had omitted to cultivate an opportunity that can never be regained". And it is very certain that mankind, having once obtained the command of the Air, will never relinquish that victory.

The airplane represents extraordinary progress in the line of transport, and it is consequently a progressive movement from an economical and industrial viewpoint. For the very reason that we are laboring under such economical oppression through the War and its after-results, we ought not to exclude ourselves from participating in the development of Aerial Transport .

W. WRONSKY.

A MILLION KILOMETERS COVERED IN FLIGHT.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS PARIS OFFICE

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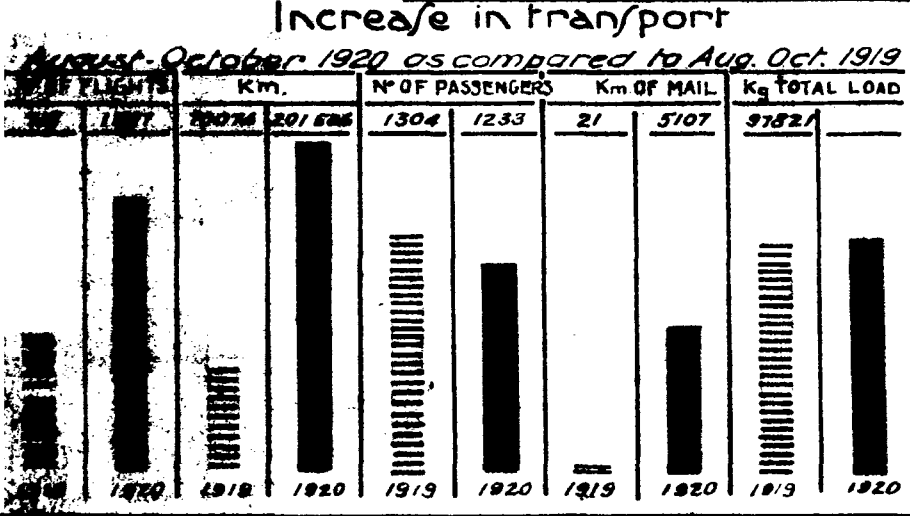

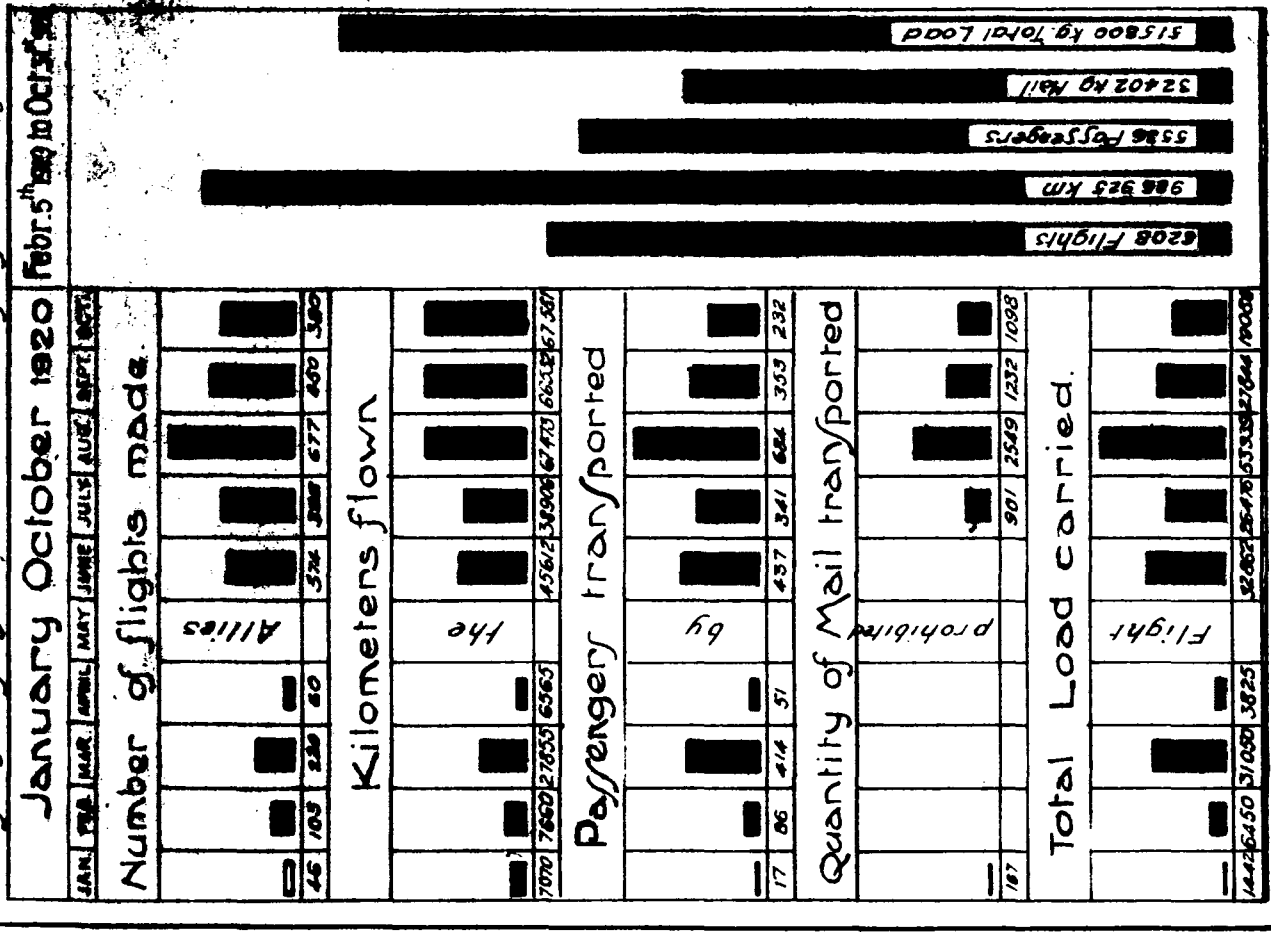

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